

Senior Development Engineer (Coating)

Here at Rayleigh Solar Tech Inc. Our mission is to be the lowest-cost provider of clean electrons to drastically increase access to renewable energy and enable the green technology transition. Our company is united by our commitment to change the planet for the better. We push the boundaries of what's possible, our passion for deep tech to solve hard engineering problems, our insatiable curiosity that forces us to ask questions, and our relentless drive for excellence in everything we touch.

Summary:

Are you an experienced engineer with a passion for renewable energy and a drive to shape the future of solar technology? Join our Roll-to-Roll Readiness team as a **Senior Development Engineer (Coating)**, where you'll be at the forefront of advancing scalable fabrication processes for flexible perovskite solar modules. The team oversees key manufacturing processes, such as laser scribing, thin-film deposition, and encapsulation, working to optimize module performance while boosting fabrication throughput. Your expertise in thin-film wet deposition and process optimization will be essential as you lead critical projects and collaborate with cross-functional teams to bring our perovskite module technology closer to R2R manufacturing readiness.

Responsibilities:

- Lead and manage key projects that contribute to the success of the team's goals and deliverables. Own specific functions within the process development space, ensuring alignment with team objectives.
- Plan, execute, and analyze coating process experiments in the laboratory. Focus on improving large-area homogeneity, optimizing process cycle time, and meeting specifications for module dimensions.
- Work collaboratively with multidisciplinary teams to scale novel processes and optimize new process parameters to enhance device efficiency and stability.
- Identify and address root causes of issues in multi-layer stack fabrication. Drive improvements in critical metrics, including defect density, opto-electronic properties, variations, and failure modes.
- Design and implement quality analysis and control methodologies. Develop and communicate quality standards and provide training to team members across functions.

- Develop and maintain data processing, management, and visualization tools to support laboratory experimentation and perovskite module fabrication.
- Apply statistical and engineering methods to improve fabrication processes. Share best practices across teams and foster continuous process optimization.
- Supervise engineers and technicians, providing guidance and direction to ensure successful project execution and professional growth of team members.

Core Competencies:

- **Critical Problem-Solving:** Ability to identify the right questions and engage the right people at the right time.
- **Curiosity & Inventiveness:** Strong desire to innovate and drive new solutions to complex challenges.
- **Execution & Follow-Through:** Commitment to delivering results and empowering others to do the same.
- **Structured Approach:** Ability to bring order and clarity to complex tasks through methodical processes, mentorship, and documentation.
- **Teamwork:** Proven ability to work effectively across cross-functional teams, including product design, quality, production, supply chain, and external vendors.

Qualifications:

- Bachelor's degree in an engineering discipline or similar technical field with 5+ years of relevant experience in the thin-film wet deposition industry, OR
 - Master's degree with 3+ years of relevant experience, OR
 - Ph.D. with 2+ years of relevant experience.
- Hands-on experience with wet coating applications (blade, slot die, spin, spray, reverse gravure, etc.) and drying equipment (thermal, infrared, air knife, vacuum ovens).
- Familiarity with flow pattern control in coating operations (fluid) and drying operations (air).
- Knowledge of thin-film solar literature and patents, including current and emerging perovskite chemistry and fabrication methods.

- Direct experience with perovskite solar cell development and processing and/or Roll-to-Roll fabrication is a strong asset.
- Ability to diagnose and troubleshoot mechanical or electrical issues in equipment.
- Experience with thin film characterization techniques (e.g., PL, XRD, SEM, AFM, XPS, confocal).
- Strong experience in statistical data analysis, design of experiments (DOE), and measurement system analysis (MSA).
- Proficiency with statistical software (JMP preferred).
- Experience in risk analysis, including P/DFMEA (Process and Design Failure Mode and Effects Analysis) and root cause analysis.

Diversity & Inclusion

At Rayleigh, we know that diversity makes a strong team. We encourage all qualified applicants to apply for this position and we will never discriminate against race, ethnicity, gender identity, gender expression, sexual orientation, disability, religion, marital status or family status. Instead, we work to celebrate the things that make us unique and create an inclusive environment for all employees.

Don't meet all the requirements outlined above but still find yourself excited about this position and Rayleigh's mission? If you believe that you have the skills and experience to excel in this role, we would love to see your application!

To apply

Submit your resume and cover letter in one PDF file to careers@rayleighsolartech.com. We are unable to accept applications in any other document format.